DEPARTMENT OF THE ARMY PERMIT EVALUATION AND RECORD OF DECISION

Applicant: Emerald Creek Garnet, Ltd. (ECG)

Application Number: NWW No. 981101710

1. Introduction: This is a Record of Decision for a Department of the Army (DA) permit application being reviewed by the Walla Walla District of the U.S. Army Corps of Engineers. This document includes the Section 404(b)(1) Evaluation and Determination, and Public Interest Determination for the applicant's preferred alternative (Proposed Project) described below. Review was conducted according to the procedures at 33 CFR Part 320 and 325, including Appendices B and C. This document also addresses the Environmental Protection Agency's Section 404(b)(1) Guidelines published at 40 CFR Part 230.

1.1. Authority.

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

1.2. Permit Decision. My decision is to issue an individual Department of the Army permit with special conditions for the proposed project.

2. Proposed Project.

2.1. Location. Wetlands adjacent to the St. Maries River, in portions of Sections 5, 8, 9, 15, and 16, T.43N., R.1E., Boise Meridian, near Fernwood in Shoshone and Benewah Counties, Idaho. See the attached Public Notice for a location map.

2.2. Proposed Project. (Alternative 3 and the Preferred Alternative in the FEIS). Twelve-Month Wet and Dry Panel Mining, 133 Acres of Wetland Mined. The proposed project consists of discharging dredged and fill material in approximately 133 acres of wetlands associated with the mining of alluvial garnet deposits on 327.5 acres of current and historic floodplain of the St. Maries River. This includes temporary fills for the construction of isolation berms, topsoil, overburden stockpiles, and work pads, as well as discharges of dredged and fill material associated with the excavation and reclamation of the site. The Emerald Creek Garnet Final Environmental Impact Statement (FEIS), October 2004, Volumes I and II contains a complete description of the project configuration, potential impacts, and proposed mitigation plans. The FEIS is incorporated into this Record of Decision by reference. The proposed project is also described in the attached Public Notice.

Under the Preferred Alternative, mining would be permitted for 12 months of the year using wet and dry panel mining techniques in all 327.5 acres of the areas proposed for mining, including 133.0 acres of jurisdictional wetlands. The area proposed for mining would be mined using a combination of wet and dry mining panels. Dry panels would be used within 70 feet of the St.

Maries River, and wet panels would be used in all other locations. This alternative is technically practical because the rate of extraction is less than 145 tons per day, the equipment requirement is less than 35 pieces of equipment per day, the labor requirement is a permanent workforce of less than 20 field workers per day, and the number of mining days per year is greater than 208 days. With a Cost/Valuation index of 0.84, it is economically practical to mine. This alternative is also logistically practical. The hauling requirement is the fourth most efficient among the alternatives. Emerald Creek Garnet (ECG) is able to respond to short-term changes in the market in less than 4 weeks. The Preferred Alternative is also consistent with Available Reserves, Market Longevity, Grade Requirement, and Mining Efficiency criteria because all 193,930 tons of reserves would be available for mining.

There have been no changes to the proposed project since the Public Notice was issued.

2.3. Existing conditions. The 327.5-acre project area contains approximately 194.5 acres of uplands and 133 acres of wetlands and other waters of the United States. Vegetation communities within the project area include coniferous forest, cottonwood forest, riparian shrub, upland meadow, and communities associated with gravel bars, oxbows and ponds. Palustrine wetlands occur in the form of open water, emergent wetlands, Hawthorne or dogwood shrub lands and cottonwood forests (See Table 3.2-1 in the FEIS). Five oxbow complexes, totaling 32.8 acres, occur within the project area (See Table 3.2-2 and Figure 3.2-1 in the FEIS). These oxbow complexes represent the highest value wetland components within the project area.

Wetlands on the project site have significant value by providing the following functions: (1) hydrologic support to the base flow of the St. Maries River; (2) flood abatement/storage to downstream homes and towns; (3) a sink for upstream sources of sediment; and (4) wildlife habitat. Areas of higher functionality, such as oxbow complexes, occur where shallow and deep emergent wetland habitats are interlaced with shrub or tree dominated habitats, as well as in areas where difference hydrologic regimes exist in close proximity to one another.

The project is located partially within the 100-year floodplain of the St. Maries River and lies in a corridor that extends from just above the confluence of Emerald Creek, to approximately 4 miles upstream, just below the confluence of Carpenter Creek and the St. Maries River. The applicant owns some of the project site and leases mineral rights from several other landowners.

Currently, the land where the mining is proposed is used predominantly for cattle grazing, some horse grazing, cultivation of hay and grass for livestock feed, and 39 acres are used for ECG offices and parking. Approximately 137 acres along the river is used for recreation.

2.4. Jurisdiction. A June 3, 2003 Jurisdictional Determination form is attached to this document and located in the project file.

2.5. Purpose and need. The purpose of the proposed discharge is to increase total available reserves to meet worldwide demand for garnet products; retain and increase customer base by showing capability of market longevity; increase availability of specific reserve grades for two target markets, water jet cutting, and oil industries; and improve mining efficiency of the company.

The project is needed to allow ECG to continue mining. ECG has approximately 156,000 tons of reserves remaining in eight existing areas. Without the additional reserves that this proposed project would provide, ECG full-time mining would end in approximately 1 to 2 years. The number of permanent employees would be reduced, seasonal employees would not be hired, some equipment would be sold and mining would continue at a reduced rate until reserves are depleted. This would cause the company to lose their customer base, and greatly reduce mining efficiency.

3. Public Notification Issues.

3.1 Public Notice Information. A complete application was received on September 30, 1998. A Public Notice describing the project was issued on November 20, 2003 and sent to all interested parties (mailing list) including appropriate Federal and state agencies. Comments received on this action are summarized below, followed by the applicant's response to the comments and the Corps response.

3.2. Comments to the Public Notice.

3.2.1. Federal Agencies.

3.2.1.1. Environmental Protection Agency (EPA). The EPA, Idaho Operations Office commented on December 24, 2003 and EPA, Region 10 commented on February 27, 2004. Their comments are summarized in detail in the FEIS, Volume I, Chapter 8, Table 8-2, Commenter Nos. 1 and 2 respectively. Below, we summarize their main comments related to the project and our response, including whether there would be any additional mitigation or conditions required should a permit be issued for the project. We do not include comments related to content and documentation in the DEIS because these discussions are adequately covered in Table 8-2.

Comment 1: Proposed mitigation would not compensate for temporal impacts, secondary impacts, or for uncertainty of wetland reclamation. EPA recommended providing permanent protection, such as a conservation easement or similar mechanism for wetlands to be reclaimed on ECG property.

Response: We agree permanent protection of wetlands on the ECG-owned property is needed to compensate for project impacts. This is documented in our September 13, 2004 Memo for Record, located in the project file. ECG will be required to provide permanent protection, in the form of a conservation easement held by a third party, for 81.7 acres including approximately 59.5 acres of wetlands.

The area to be protected would comprise the following: 1) 55 acres (Mining Area F shown on Figure 2-1, Page 2-5 in the FEIS and on Sheet 3 of the permit drawings) and; 2) 26.7 acres (Portion of Mining Area C shown on Sheet 4 of the permit drawings). The easement would include construction and maintenance of a livestock exclusion fence around the land to be protected to exclude livestock grazing. The fence would be located on the property lines and along the river the fence would be located at the top of the bank or 10 feet back from top of the bank, whichever is feasible. ECG would be required to sign an approved conservation easement on these areas prior to August 1, 2005 or ECG would not be permitted to continue mining areas other than Mining

Area B (Sheet 5 of the permit drawings) and the areas outlined in Mining Area C (sheet 6 of the permit drawings). All mining activities associated with this permit would cease on August 1, 2005 if the event the conservation easement is not approved, signed and recorded.

Comment 2: Another mitigation measure EPA recommended was to provide permanent protection of a riparian buffer area along the St. Maries River along the entire length of the project. EPA said this would help mitigate for some of the impacts to temperature, corridor, and streamside habitat.

Response: The conservation easement described above would provide a permanent riparian buffer along the river on land owned by ECG. This would protect approximately 3200 feet along the river. ECG approached the landowners on lands they lease concerning establishing a buffer on their lands, but the other landowners would not agree.

Comment 3: EPA recommended that any permit issued for the project include a condition requiring specific approval of annual operating plans and successful reclamation. This, EPA wrote, is extremely important because so much of the mitigation for the project is based on the successful reclamation of the wetland complexes.

Response: ECG would be required to submit annual mining/reclamation plans to the Idaho Department of Lands and the Corps for review. After review of the operation, the Corps may notify ECG of any proposed suspension or modification of the permit for a specified mining area should any portion of the plan not meet the terms and conditions of the permit.

Comment 4: EPA recommended planting the reclamation area with Plant Option 2 to provide a higher chance of success in a shorter time.

Response: Further discussions with EPA, Corps and ECG indicate Plant Option 1would be the preferred option because this option has been used successfully in the past on Emerald and Carpenter Creeks. Option 1 is less expensive than Option 2 and formulated to provide an optimum mix of immediate sod-building capability, quick transition to native species. Any permit issued for this project would require Option 1 with ECG being able to adjust the program as necessary in response to the annual reclamation review.

Comment 5: EPA suggested an interim performance standard for the reclamation areas of establishing at least 60 percent aerial cover at the end of 3 years.

Response: We agreed interim performance standards should be established. We coordinated with EPA and ECG to arrive at appropriate standards. The standards are described in the June 2000 Draft Plan of Operations, edited July 2004. The FEIS, Table 8-2, comment 8 response references this information being in Appendix A. Instead, they are located in Volume I, Appendix F. These interim performance standards would be included as conditions of any permit issued for this project.

Comment 6: EPA recommended monitoring with random sampling in addition to sampling at permanent plots.

Response: We believe the use of permanent plots would provide more useful data on vegetation succession and success for comparison purposes. Therefore, we would not require the inclusion of random sampling in any permit issued for the project.

Comment 7: The DEIS does not address the environmental impacts of accessing the three areas currently separated from the majority of the mining lands by the Saint Maries River. EPA recommended these three areas be excluded from any permit issued, until access can be identified and properly analyzed.

Response: We advised ECG of this concern and they said ECG would access Area #2 from the south using existing county roads and an existing logging road. ECG and the Corps agree it is unlikely the large meander channels around Areas #1 and #3 shown on Figure 2-1 would be cut off, to allow the area inside the meanders to be mined. Any permit issued for this project would advise ECG their permit does not authorize discharges of fill material to provide access to Areas #1 and #3 on Figure 2-1 of the FEIS. ECG would be advised a permit modification would be required prior to such discharges.

Comment 8: EPA wrote the St. Maries watershed is listed on Idaho's 303 (d) list for not meeting water quality standards for sediment, temperature, habitat alteration, nutrients, pathogens and dissolved oxygen. They were concerned the mining project may continue degradation of the waterway and recommended the project include riparian protection, containment of mining sediment and contingency planning.

Response: We believe the conservation easement that will protect approximately 3200 feet along the river, and the setback of 22.5 feet along the entire length of the project will provide protection to water quality. Volume II Appendix A (Section 2.3.3) describes pre-flood shutdown criteria and procedures. In addition, the Stormwater Pollution Prevention Plan provides for contingencies.

Comment 9: EPA recommended a contingency plan, including financial assurance component be included in the EIS to address ECG ability to respond to unforeseen flood events, which may cause the berm to fail.

Response: Volume II, Appendix A provides pre-flood shutdown criteria and procedures. These plans allow the operator to respond quickly to unforeseen and unpredictable events, but the shutdown would not mean mining panels would be closed. We feel while no mining panel larger than 300 feet by 80 feet would be open at any given time, extremely high flood events could overtop the berm and possibly cause the berm to fail. In such an extreme storm event, water from the panels would join the flooding river and would likely not contribute substantially to any change in stream function. Any permit issued for this project would be conditioned to require ECG to prepare a contingency plan for Corps approval that describes conditions under which mining would stop, when notification and reporting would be required, and conditions when start-up operations may resume. In cases of berm failure, the plan would need to address how repairs to the berm, and if necessary, the riverbank would proceed before startup.

3.2.1.2. U.S. Fish and Wildlife Service (FWS). FWS did not comment to the Public Notice or to the DEIS.

3.2.1.3. National Marine Fisheries Service (NMFS). NMFS did not comment to the Public Notice or to the DEIS.

3.2.1.4. Bureau of Land Management (BLM). BLM did not comment to the Public Notice or to the DEIS.

3.2.2. State and Local Agencies.

3.2.2.1. Idaho Department of Fish and Game (IDFG). IDFG commented wetland mitigation for the project should replace existing wetland and open water areas that support a variety of wildlife. They recommended a mitigation plan that restores cottonwood stands along the river and incorporates large woody debris into the floodplain. IDFG recommended sediment retention berms be located well away from the river to reduce the potential for water quality impacts and further impacts to fish habitat.

Response: We believe the mitigation and reclamation plans would adequately replace the wetland areas to be impacted by the project, including revegetation of cottonwood forests. The proposed berms would be set back from the river 22.5 feet to protect water quality and fish habitat. In addition, the shutdown procedures described in the FEIS, Volume II, Appendix A, pages A-18 to A-21, incorporate measures that would reduce impacts in the event of potential flooding.

3.2.2.2. Idaho Department of Lands (IDL). IDL did not comment to the Public Notice or to the DEIS.

3.2.2.3. Idaho State Historical Society (ISHS). ISHS' October 15, 1999 letter reviewed the cultural resources survey, concurred with the findings, and supported the recommendations provided in the report to halt mining and contact their office in the event archaeological remains are encountered. They also recommended the applicant contract with an archaeologist to conduct annual monitoring of the project. In addition, they recommended the archaeologist provide in-field training to the mining crews to heighten their awareness of cultural resources and ability to identify archaeological materials. Another letter of July 16, 2002 requested information on historic buildings and structures within or adjacent to the project area. A further letter of December 17, 2003 stated a review of their records yielded no historic properties eligible for listing in the National Register, therefore, ISHS felt issuance of the Corps permit would have no effect on historic or archaeological properties. They recommended if archaeological deposits are uncovered during construction, the applicant should be advised to halt work in the general vicinity until a qualified archaeologist has an opportunity to assess the discovery. SHPO's Nov 5, 2004 letter recommended the following special conditions for any permit issued for this project: "a professional archaeologist will (1) monitor the initial vegetation and top soil removal at the past and present confluences of the St. Maries River and its major tributaries; (2) provide in-field training to the mining crews in the identification of cultural material and archaeological features; (3) be available to respond to any discoveries of cultural material found during mining operations." SHPO requested this overview by a professional archaeologist during the initial phases of mining to identify any cultural resources, which may be buried in the floodplain.

Response: Any permit issued for this project would include a condition requiring the applicant immediately notify our office if they discover any previously unknown historic or archeological remains, while accomplishing the activity authorized by this permit. Our condition would state we would initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places. Any permit issued for this project would also include the three conditions recommended by SHPO in their November 5, 2004 conditions. The permittee has reviewed the three conditions and agrees they can meet these conditions.

3.2.2.4. Idaho Transportation Department (ITD). ITD commented the project exclude mining on the state highway right-of-way. ITD stated mining adjacent to their right-of-way should not be done in such a way that excavating endangers the highway's stability. ITD advised the applicant identify access points to ITD prior to work and their access permit and a traffic control plan may be required.

Response: ECG advises us the proposed project would not take place within the ITD right-of-way and would not endanger the highway stability. Any permit issued for this project would include a condition that the mining activities be designed to not endanger highway stability. In addition, the cover letter for any permit issued for this project would advise the applicant to contact ITD for any permit requirements they may have to access State Highway 3 and provide a traffic control plan.

3.2.3. Organizations. Five organizations commented to the DEIS.

3.2.3.1. Kootenai Environmental Alliance (KEA). KEA stated the project needs to comply with Idaho water quality standards and Section 303 of the Clean Water Act. This organization wanted to know the result of past berm failures and whether sediment was released into the river. They stated the berms at the project site would not have withstood the storm event of 1996. KEA stated the FEIS should supply the number of violations of the state sediment regulation that have occurred over the past 20 years. KEA also asked for corrections regarding the annual water withdrawals required for the project in the spring and summer months. They also recommended the FEIS identify the impacts to water temperature below the project during the months of August and September. The full text of their comments and the Corps response is included in the FEIS.

Response: Any Department of the Army permit for this project would not be issued unless Idaho Department of Environmental Quality (IDEQ) certifies the project would not cause violations of water quality standards. IDEQ is requiring pollutant trading to comply with Section 303. To address past berm failures on Carpenter Creek, ECG has modified their mining operations to reduce the likelihood of failure in the future work proposed for this project. There have been no violations of state sediment regulations, as suggested by the commenter. ECG states the correct water withdrawal over the course of a year is 0.40 cfs. This withdrawal can reach 2.0 cfs for a matter of hours during filling of a new mining panel. We do not anticipate the withdrawal of 0.40 cfs per year to have a measurable effect on river temperature during August and September.

3.2.3.2. Other Organizations. Four companies who are customers of the applicant commented on the project. They stated ECG does an outstanding job of taking care of

the land it mines and described economic effects of the No Action Alternative. They support issuance of a permit.

3.2.4. Individuals. Twelve individuals commented on the project. They mostly supported the proposed project.

One commenter stated the 18-inch berms are inadequate to prevent even moderately high river flow events from invading the mining units, which could result in silt-laden water flowing back into the river. This commenter suggested the "Surface Water Management Team" who determines if and when to suspend mining operations should consist of others besides ECG. This commenter also wrote that ECG must be held accountable for their sediment contribution to the river system. Lastly, this commenter stated the FEIS should describe the mandatory water quality monitoring plans that would be required.

Another commenter wanted to know how ECG would reduce sediment in one place to offset sediment for this project. How will this reduced sediment be monitored? Will there be actual numeric values of sediment reduced or will monitoring be more subjective?

Response: The use of 18-inch berms would allow the floodwater to flow over and through the mining unit during very high flood events. This was intended to reduce the amount of water that could be released into the river in case of berm failure. This design was reached through efforts of an inter-agency planning group. The group concluded the 18-inch berms would best balance the need to isolate water in the mining panels with the desire to avoid potentially large releases in case of failure. We feel ECG should be the responsible party to identify the need for and implement shut-down procedures because they are onsite at all times and in a position to quickly respond to storm events and shutdown procedures. As an added measure, any permit issued for this project would include a condition to require ECG suspend all mining at least 8 hours before a flood event is expected. In regards to the comment about holding ECG accountable for sediment contribution to the river, IDEQ is requiring that ECG predict potential sediment discharges over the mine's life and commit to specific projects that would result in at least an equal reduction in sediment discharges during that same period. Regarding water quality monitoring plans, there would be two permanent sampling locations above and below the project area and a portable station. Instruments would automatically record data on total suspended solids, turbidity, stage height, and temperature. ECG would report data to IDEQ. In addition, ECG would use hand-held instruments to measure turbidity in the river.

Regarding the question about how ECG would reduce sediment in one place to offset sediment for this project, DEQ will require there be no net increase in a pollutant that has been identified as a cause of impairment (sediment and temperature). ECG would be required to predict any potential sediment discharges over the mine's life. Then ECG would be required to commit to reducing sediment discharges from other sources within the St. Maries watershed by at least the amount of sediment predicted to be discharged by the mining project. Sediment improvements would be monitored as described in the paragraph above, using numerical values.

3.2.5. Coeur d'Alene Tribe (CDA Tribe). The CDA Tribe was concerned removal of the mature wetland plant community would take many years to recover. The Tribe states the oxbow avoidance alternatives attempt to minimize adverse impacts, but additional measures to avoid negative impacts must also be fully explored. The Tribe requested

information on whether studies on endangered, threatened and special status species have been conducted and, if so, requested their results. The Tribe recommended the riparian shrub layer along the river, and in particular the cottonwood stands, be protected. The Tribe recommended coordination with them to determine if any impacted areas are culturally significant or may have the possibility of containing artifacts. The Tribe also commented any artifacts discovered during excavation should be immediately reported.

Response: We agree the mitigation will take many years before it is functionally mature. This is why we required an additional 29.4 acres of wetlands and placing the lands owned by ECG in a conservation easement. With these additional steps, we believe the project will achieve its goals and the proposed monitoring would ensure the mitigation performs successfully. We believe all reasonable alternatives to the proposed project have been evaluated in the FEIS. Under requirements of Section 7 of the Endangered Species Act, we coordinated with US Fish and Wildlife Service and they concurred with our Biological Assessment. Volume II of the DEIS included Appendix H, *An Evaluation of Threatened, Endangered, Sensitive, and Common Wildlife Species and Habitats on Properties Along the St. Maries River* and Appendix I, *St. Maries River Oxbow Fisheries and Habitat Assessment.* These reports were sent to the Tribe. In regards to protecting the cottonwood stands, ECG would not remove any cottonwood stands within 22.5 feet of the river. There are approximately 1000 cottonwood trees on the 357 acres of land to be mined. Mining activities would require removal of less than 350 of these trees, leaving over 650 cottonwoods unaffected by the project. Mitigation proposed for the project (FEIS Volume II Appendix A) would replace shrubs and trees, including cottonwood, aspen, alder, willow, dogwood, hawthorne, and rose. This would include planting over 530 cottonwoods to replace those removed for mining. This planting would be made a condition of any permit issued for this project. In June 2002 and April 2004, we provided the Tribe with a copy of the cultural resources survey report and requested comments on the report. The Tribe did not comment further on the report. Any permit issued for this project would require an archaeologist be onsite as described in Section 3.2.2.3. above during project excavation, the project be stopped and the State Historic Preservation Officer be notified in the event an historic artifact is discovered.

4. Compliance With Other Federal and State Laws. (e.g., ESA,WQC, CZM, EFH, Executive Order)

4.1. Water Quality Certification. Idaho Department of Environmental Quality requested an extension to comment. They said they would act on the water quality certification request for this project 30 days after their receipt of the FEIS. We granted their request.

Date: November 5, 2004. Issued _X_, Denied _____, Waived ____
Special Conditions? Yes ___X__, No _____. If yes, certification and conditions are attached.

4.2. State and/or Local Authorizations (if issued). Other authorizations required for the project include a mining permit from the Idaho Department of Lands. An access permit and a traffic control plan may also be required from Idaho Transportation Department.

4.3. Endangered Species Act. The project area provides habitat for the gray wolf (Canis lupus), Canada lynx (Lynx canadensis), bull trout (Salvelinus confluentus), water howellia (Howellia aquatilis), and bald eagle (Haliaeetus leucocephalus). We consulted with U.S. Fish and Wildlife Service (FWS) regarding impacts to these species in our November 7, 2003

Biological Assessment our May 28, 2004 Amendment to the Biological Assessment. FWS concurred with our determination that the proposed action may affect, but is not likely to adversely affect the gray wolf , Canada lynx, bull trout, and water howellia. In addition, FWS concurred with our determination the proposed action may affect, but is not likely to adversely affect the threatened bald eagle with the implementation of conservation measures specified in the Amended Biological Assessment. The conservation measures included avoiding removal of mature cottonwood stands, protecting restored sites from livestock grazing, retaining snags or live trees as snag replacements, restoring pre-project wetland functions, minimizing adverse effects to aquatic biota by providing sediment control structures, and implementing additional restoration activities to maintain productive habitat in perpetuity if monitoring identifies deficiencies in the restoration effort. The conservation measures, as described in our Amended Biological Assessment, would be included as conditions of any permit issued for this project and are incorporated in the June 2000 "Plan of Operations for St. Maries Floodplain Dredge Mining Permit", revised February 2002, Edited July 2004, Appendix 10.3 pgs 3 and 5.

4.4. Essential Fish Habitat (EFH). Not applicable.

4.5. Executive Orders. Not applicable.

4.6. Coastal Zone Management Consistency Determination. Not applicable in Idaho.

5. Alternatives. [33 CFR Part 320.4 (a)(2)(ii) and 40 CFR Part 230.10(a)] Section 404(b)(1) of the Clean Water Act prohibits the discharge of dredged or fill material into waters of the United States unless the proposed discharge is the least environmentally damaging practicable alternative capable of achieving the project purpose. We evaluated alternatives pursuant to 40 CFR 230.10. The NEPA and implementing regulations at 40 CFR 1502.14 require a range of reasonable alternatives including the no action alternative be evaluated. Under NEPA, the no action alternative and action alternatives meeting the project purpose and need of the preferred alternative are considered to be reasonable alternatives. These alternatives under NEPA do not need to be available to the applicant. Though we evaluate these alternatives, the alternatives selected should be available to the applicant at the time of our permit decision. Following is a detailed discussion of alternatives to the proposed project meeting the project purpose and need. Each alternative discussed addresses logistics, technology, cost and environmental consequences and is followed by a statement indicating whether or not we consider the alternative to be practicable. Alternatives to the proposed project are evaluated throughout this document unless they are considered not practicable, do not meet the project purpose, are not the least environmentally damaging or are not available.

5.1. No Action (Alternative 1 in the FEIS). The No Action alternative consists of: 1) no USACE permit issued and 2) no mining of 133.0 acres of jurisdictional wetlands. Mining of 77.8 upland acres within the project area under existing permits would continue. There are approximately 41,000 tons of reserves remaining in the current upland permit areas on the St. Maries. Mining would continue for 1 to 2 years when full-time production would cease. At that time, equipment would be sold, manpower requirements would decrease, the labor force would shift to a less skilled, seasonal force, and the number of mining days per year would decrease. The No Action alternative would result in increasing costs per ton for existing permit areas once production rates decrease, and in an overall decrease in total annual revenue. The lack of additional reserves would result in a decrease in profitability of the current operation in the next 1 to 2 years, and a loss in gross revenue of $35,480,000 over a 9 to 15-year period. The No Action alternative would not permit ECG to respond to the world garnet market. This alternative is not consistent with ECG's Purpose and Need.

5.2. Other Project Designs.

5.2.1. Smaller Project Designs. Since alluvial garnets occur in floodplains, complete avoidance of impacts to wetlands is not possible for garnet mining operations. All three smaller project designs involve avoiding the higher-value oxbow wetlands.

5.2.1.1. Oxbow Avoidance, 84.3 Acres of Wetland Mined (Alternative 8 in the FEIS). Alternative 8 would permit mining of 84.3 acres of wetland, and would prohibit mining of oxbow complexes 1, 2, 3, 4, and 5. All other proposed mineable areas would be mined as under the Preferred Alternative. Under Alternative 8, the proposed mining area has a CV index of 0.94, making it economically impractical to mine. Approximately 20 percent of the proposed mining area (64.1 acres) is in the oxbow complexes and would not be available to ECG. Additionally, approximately 11 percent of the proposed mining area (35.2 acres) is in areas made inaccessible by oxbow avoidance. The loss of this acreage creates a patchwork mining approach rather than an efficient, continuous upstream to downstream approach. This necessitates additional roads within the mining areas and more frequent shutdown periods to move mining equipment around oxbow complexes. These additional activities add to the cost of operations, making this alternative not practical based on logistics and cost. Alternative 8 would reduce the total available reserves by 65,576 tons, approximately 33.8 percent of the available reserves. This alternative would constrain ECG's longevity in the market place, would constrain garnet products for target markets, and would limit ECG's ability to improve mining efficiency.

5.2.1.2. Oxbow Avoidance, 96.9 Acres of Wetland Mined (Alternative 9 in the FEIS). Alternative 9 would permit mining of 96.9 acres of wetland and would prohibit mining of oxbow complexes 1, 2, and 3. All other proposed mineable areas would be mined as under the Preferred Alternative. Under Alternative 9, the proposed mining area has a CV index of 0.91, making it economically impractical to mine. Approximately 14 percent of the proposed mining area (44.6 acres) is in the oxbow complexes and would not be available to ECG. Additionally, approximately 7 percent of the proposed mining area (21.6 acres) is in other areas made inaccessible by oxbow avoidance. The loss of this acreage creates a patchwork mining approach rather than an efficient, continuous upstream to downstream approach. This necessitates additional roads within the mining areas and more frequent shutdown periods to move mining equipment around oxbow complexes. These additional activities add to the cost of operations, making this alternative not practical based on logistics and cost. Alternative 9 would reduce the total available reserves by 45,132 tons, approximately 23.3 percent of the available reserves. This alternative would constrain ECG's longevity in the market place, would constrain garnet products for target markets, and would limit ECG's ability to improve mining efficiency.

5.2.1.3. Oxbow Avoidance, 108.9 Acres of Wetland Mined (Alternative 10 in the FEIS). Alternative 10 would permit mining of 108.9 acres of wetland and would prohibit mining of oxbow complexes 2 and 4. All other proposed mineable areas would be mined as under the Preferred Alternative. Under Alternative 10, the proposed mining area has a CV index of 0.83, making it economically practical to mine. However, Alternative 10 constrains ECG's longevity in the marketplace and limits mining efficiency. Approximately 10 percent of the proposed mining area (32.1 acres) is in the oxbow complexes and would not be available to ECG under this alternative. Additionally, approximately 4 percent of the proposed mining area (13.6 acres) is in areas made inaccessible by oxbow avoidance. The loss of this acreage creates a

patchwork mining approach rather than an efficient, continuous upstream to downstream approach. This necessitates additional roads within the mining areas and more frequent shutdown periods to move mining equipment around oxbow complexes. These additional activities add to the cost of operations making this alternative not practical based on logistics or cost. Alternative 10 would reduce the total available reserves by 22,228 tons, approximately 11.5 percent of the available reserves. This alternative would constrain ECG's longevity in the market place, would constrain garnet products for target markets, and would limit ECG's ability to improve mining efficiency.

5.2.2. Larger Project Designs. No larger project designs were evaluated. The proposed project is to mine all available garnet within the project area.

5.2.3. Different Project Designs.

5.2.3.1. Twelve-Month Wet Panel Mining, 133 Acres of Wetland Mined (Alternative 2 in the FEIS). This alternative would permit ECG to mine 12 months of the year using wet panel mining techniques within the 327.5 acres proposed for mining, including 133.0 acres of jurisdictional wetland. Alternative 2 is technically practical because the rate of extraction is less than 145 tons per day, the equipment requirement is less than 35 pieces of equipment per day, the labor requirement is a permanent workforce of less than 20 field workers per day, and the number of mining days per year is greater than 208 days. With a Cost/Valuation (CV) index of 0.82, it is economically practical to mine. The hauling requirement is the most efficient among the alternatives, with the fewest hauling trips required. ECG would be able to respond to short-term changes in the market in less than 4 weeks. Continued operation would be practical under this alternative. Alternative 2 is consistent with Available Reserves, Market Longevity, Grade Requirement, and Mining Efficiency criteria because all 193,930 tons of reserves would be available for mining.

5.3. Other Sites Available to the Applicant. Industrial-grade garnet is primarily produced in Australia, India, North America, China and South Africa, in decreasing order of production. In North America, industrial-grade garnet is produced in New York and Idaho. The proposed project is limited to sites having a sufficient concentration of garnet of various sizes for commercial mining. Other sites, though they may be available, would not contain sufficient concentrations of garnet and would not satisfy the project purpose and need.

5.4. Other Sites Not Available to the Applicant. Other sites, though they may not be available, would not contain sufficient concentrations of garnet and would not satisfy the project purpose and need.

6. Environmental Impact Assessment. [33 CFR Part 320.3 and 320.4]. The following paragraphs describe the potential beneficial and detrimental direct impacts of the activity on various public interest factors considering the parameters necessary to ensure minimal adverse effects. Direct impacts are the potential short and long-term effects of discharges on the chemical, physical, and biological components of the aquatic environment. Direct impacts are caused by the action and occur at the same time and place. The extent to which each factor is discussed is based on the value of the resource, the controversy surrounding it, the level of concern expressed by the commenting public, and the potential impact to the factor. Indirect and cumulative impacts of the proposed work are discussed at the end of this section.

6.1. Substrate. Approximately 133.0 acres of wetland substrate would be excavated and backfilled during mining activities under the proposed project. Approximately 327.5 acres of upland and wetland substrate would be disturbed in this fashion. These impacts would be mitigated by restoration of vegetation and wetland habitat functions, incrementally for each 0.5 acre mined.

6.2. Currents, circulation or drainage patterns. There are six tributaries that flow into the St. Maries River within the vicinity of the project area. They are Emerald Creek, Carpenter Creek, Adams Creek, Hatton Creek, Pierce Creek, and Olson Creek. Emerald and Carpenter Creeks are located on the south side of the St. Maries River and would not be affected by the proposed project. The four remaining creeks flow through the project area from the north (Adams Creek, Hatton Creek, Pierce Creek, and Olsen Creek). Circulation in these four creeks would not be affected because there would be a 30-foot non-mining setback with a siltation berm occupying 7.5 feet of the setback along each of the creeks located within the proposed project area.

A special condition of any permit issued for this project would state the permit does not authorize any discharges of fill material into the St. Maries River, Adams Creek, Hatton Creek, Pierce Creek, or Olsen Creek, or within 22.5 feet of these waters for the entire length of the project. Process waters used in mining would not be directly discharged to the St. Maries River or its tributaries. ECG would implement storm water control BMPs within the mining units to prevent discharge of storm water and process waters associated with mining.

6.3. Suspended Particulates and Turbidity. The probability of a 25-year or greater flood occurrence event is 4 percent or less in any given year. Construction of temporary and haul roads, project site BMPs, and mine operations may generate sediment. Sedimentation berms around the mining units would contain all storm water within the mining unit. These berms would prevent all flows, up to and including the 5-year event, from reaching the actively mined floodplain within the mining units. Although this could alter the localized hydrologic regime within the mining units, the impact would be localized and the duration would be brief. The berms would not prevent floodwaters from reaching floodplains outside the active mining units.

If a significant volume of water accumulates in the BMP berms, the water would be pumped from the permit and land-applied in upland areas. The BMPs would handle a 25-year storm event. At flows greater than the 25-year event, berms would allow mining units to be completely full of water. At this point a berm failure could occur, however releases to the river would be slow. At flows in excess of the 25-year event, the river would have naturally high levels of suspended sediment and the additional sediment contributed by the eroding berm would be negligible.

6.4. Water Quality (temperature, salinity patterns). The St. Maries River, including nearly all the stream segments in its watershed, is listed as water quality limited under Section 303(d) of the Clean Water Act for not meeting designated uses identified by IDEQ. Sediment is uniformly listed as a pollutant of concern, while nutrients, temperature, dissolved oxygen depletion, and bacteria are also listed as pollutants of concern for some segments.

The likelihood of impacts resulting from water withdrawal and releases, sedimentation and

erosion, and floodplain alterations under all alternatives is low. Annual water withdrawal would range from 588,000 to 1,764,000 cubic feet (0.20 cubic feet per second [cfs] in spring and 0.4 cfs in summer), reducing instream flow 0.4 and 0.6 percent respectively. This level of withdrawal constitutes an insignificant impact to the hydrologic regime of the St. Maries River. Sedimentation would be controlled by sedimentation basins and other Best Management Practices (BMPs) designed and constructed for 25-year flows.

There would be no discharge of pollutants to the St. Maries River or to other surface waters except possibly when the river floods out of its banks. To compensate for sediment impacts to a TMDL stream, DEQ requires ECG implement on- and/or off-site watershed improvements to reduce sediment in the river by more than the operation would be predicted to discharge (during flood events) over its entire lifetime.

Potential impacts could occur under all alternatives as a result of accidental spillage during onsite equipment fueling and from mining equipment accidents or collisions. The likelihood of spills and associated impacts would be reduced by the implementation of a spill prevention plan, BMPs, and established clean-up protocols under all alternatives.

Overall, the project would not reduce shading of the river, and would not affect temperature.

6.5. Flood Control, Storm, Wave and Erosion Buffers. No effect.

6.6. Erosion and accretion patterns. No effect. Road building and mining activity could cause temporary erosion and compaction. There would be a very low soil sloughing risk. Slopes in the area range from 0 to 4 percent and ratings for shrink/swell and erosion are low. No permanent impacts to earth resources are expected to result from any of the action alternatives.

6.7. Aquifer recharge. No effect.

6.8. Baseflow. No effect.

6.9. Mixing Zone (for projects that involve the discharge of dredged material) (consider the depth of water at the disposal site, current velocity, direction and variability of the disposal site, degree of turbulence, water column stratification, discharge vessel speed and direction, rate of discharge, dredged material characteristics, and number of discharges per unit of time). No effect.

6.10. Special Aquatic Sites. Direct impacts to wetlands would occur under all action alternatives as a result of temporary stockpiling of topsoil in wetlands and temporary placement of fill in wetlands for roads, equipment pods, and siltation berms. Dredged material would be sidecast into wetland areas in the construction of diversion channels and sediment basins. Impacts would occur to forested wetland, scrub shrub wetland habitat, and emergent wetlands. Alternatives 2 and 3 would both impact 133 acres of wetlands, including 64.1 acres of oxbow complex. Alternative 8 would impact 84.3 acres of wetland and would avoid mining all oxbow complexes. Alternative 9 would impact 96.6 acres of wetland, while avoiding three oxbow complexes. Alternative 10 would impact 108.9 acres of wetland, while avoiding two oxbow complexes.

Potential indirect impacts to wetlands could occur under all action alternatives as a result of

alteration of wetland hydrology from changes in drainage patterns, changes in runoff volumes, and/or changes to local alluvial groundwater flow gradients. Increased delivery of nonpoint source pollution to adjacent wetland areas could include temporary increases in sediment loads from land-clearing activities, seasonal pulses of sediment from winter road maintenance, and petroleum distillates, metals, and rubber contained in storm water from ordinary machinery wear.

6.11. Habitat for Fish and Other Aquatic Organisms. Direct, but temporary, impacts to fisheries could occur under the action alternatives as a result of mining oxbows. Mining could result in temporary loss of oxbow habitat for several fish species; damage to eggs or disturbance to spawning fish; and temporary loss of the oxbows as travel corridors to reach important habitat. Potential temporary indirect impacts to fisheries could occur as a result of incidental sedimentation of fish habitat during mining. Alternatives 2 and 3 (preferred project) would have greater potential for temporary direct and indirect impacts to fisheries because they would include mining all the oxbows. Alternative 8 would have the least potential for impacts to fisheries habitat due to avoidance of five oxbows. Because the mitigation plan calls for no more than one or two 80- by 300-foot mining panels to be open at any given time, and mining panels would be graded and seeded the first summer season after mining, these impacts should be minor and localized. Habitat for fish and other aquatic organisms would be improved as wetland restoration progresses. A special condition of any permit issued for this project would require compliance with the mitigation plan. In addition, incidental sedimentation that could affect fish habitat would be reduced by other special conditions that limit discharges within 22.5 feet of the St. Maries River or any of the tributary streams on the property, require compliance with state Best Management Practices, and require compliance with success criteria.

6.12. Wildlife Habitat. Direct impacts to wildlife habitat would occur under all action alternatives through removal of vegetation during mining activities, resulting in alteration of plant community structure through mature tree and shrub removal. A total of 693 trees would be incrementally removed over the mining period and would be incrementally replaced with 4,140 trees over the same period. The action alternatives may affect, but are not likely to adversely affect, water howellia habitat. The potential for impact on water howellia habitat would be less under Alternative 8 than under Alternatives 2, 3, 9 and 10 because Alternative 8 avoids all oxbows.

Direct impacts to wildlife would occur under all the action alternatives because of loss of habitat during mining. This could include temporary loss of bird nesting, foraging, roosting, and wintering habitat. Potential indirect impacts under all action alternatives would include temporary avoidance of habitat by wildlife due to noise activities associated with mining; disruption of wildlife movement; and displacement of habitat. Impacts would increase with an increase in the area of impact until reclamation and mitigation activities matured and habitat is

replaced. Alternatives 2 and 3 would have a greater potential for direct and indirect impacts to wildlife than Alternatives 8, 9, and 10 because more total acreage would be mined.

6.13 Threatened and Endangered Species. See Section 4.3 above.

6.14. Biological availability of possible contaminants in dredged or fill material, considering hydrograpy in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the project; known significant sources of persistent pesticides form land run-off or percolation; spill records for

petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities or other sources. No effect.

6.15. Existing and Potential Water Supplies. No effect.

6.16. Recreational and Commercial Fisheries. No effect.

6.17. Other Water Related Recreation. There are no designated water related recreation areas located within the proposed project area. However, approximately 137 acres along the river through the project site is used for swimming or fishing during the summer months. The proposed project would have minimal affects on both fishing and swimming for two reasons. First, no more than 30 acres would be disturbed by the project annually, leaving the remaining 107 acres available for water related recreational activities and access to the St. Maries River from Highway 3. Numerous access points along the south side of the river would not be affected by the project. Second, there would be a 22.5 foot non-mining setback of native growth between the siltation berm and the ordinary high water mark on the project side of the river for fishing or swimming access, and multiple non-restricted access points along the rivers on the south side of the river.

6.18. Aesthetics of Aquatic Ecosystem. Visual impacts are not expected under any of the alternatives. Proposed mining activity would be adjacent to previously existing mining activity. Along State Highway 3, vegetative screening in the foreground would alternate with views of the proposed mining area. Mining would be completed in sections, which would then be reclaimed. The surface of each section would be returned to a natural-appearing landscape following mining.

6.19. Parks, National Seashores, Wild and Scenic Rivers, Wilderness Areas, Research Sites, etc. No effect.

6.20. Traffic/Transportation Patterns. Temporary direct impacts would result from the addition of new temporary roads and haul roads and the addition of truck and employee traffic to the existing and proposed roadway system. Traffic service and safety impacts are expected to be low under all action alternatives due to low traffic volumes. Four to seven haul trips per day would occur. Alternatives 2 and 3 have the least potential for impacts from new roads. No new temporary roads or haul roads would be constructed under these alternatives. Alternative 8 has the greatest potential for roads impacts among the action alternatives. This alternative would require the construction of three additional roads.

6.21. Energy Consumption or Generation. No effect.

6.22. Navigation. No effect.

6.23. Safety. No effect.

6.24. Air Quality. No air quality impacts are expected under any of the alternatives. Project emissions are not anticipated to exceed standards.

6.25. Noise. Impacts from noise are not expected under any of the alternatives. Noise sources would be intermittent and would mainly occur during daylight hours. Alternative 3 could have a very slightly higher noise level due to use of slightly more equipment.

6.26. Historic Properties (National Historic Preservation Act). Impacts to cultural resources are not expected under any of the alternatives. National Historic Preservation Act (NHPA) Section 106 compliance, including archaeological survey of all proposed project areas, has been completed. No National Register of Historic Places-eligible resources were identified in the project area. USACE offered to consult with interested Native American groups regarding this action. In the event of inadvertent discoveries of archaeological deposits during mining, all mining would stop at the location and the SHPO would be contacted. Work would not resume at that location until the discovery is evaluated by a qualified professional archaeologist.

In addition, any permit issued for this project would require the permittee obtain the services of a professional archaeologist to (1) monitor the initial vegetation and topsoil removal at the past and present confluences of the St. Maries River and its major tributaries; (2) provide in-field training to the mining crews in the identification of cultural material and archaeological features; and (3) be available to respond to any discoveries of cultural material found during mining operations.

6.27. Land Use Classification. Impacts to land use or ownership are not expected under any of the alternatives, with one exception, as noted below. Mining is an established land use in the region and all action alternatives would be consistent with all applicable plans and ordinances. Land ownership would not change. Under the Preferred Alternative, a total of 79.4 acres owned by ECG, including approximately 47.76 acres of wetlands, would be removed from cattle grazing and other uses and permanently protected by a conservation easement.

6.28. Economics. Potential direct employment loss and indirect/induced employment loss could occur within 1 to 2 years under the No Action alternative when mining is completed under existing permits. The action alternatives would extend the period of mining without job loss and provide a net benefit to the regional economy due to extended operation. Alternatives 2 and 3 would provide the greatest benefit, with a 12-year extended period of mining. Alternative 8 would provide the least socioeconomic benefit by reducing the overall mining period by 61 months. Potential indirect impacts due to population loss, vacancy rates, reduced retail sales, and tax revenues are expected to be low for all alternatives. Mining constitutes 0.43 percent of the economy in the two-county area.

6.29. Prime and Unique Farmland (7 CFR Part 658). No effect.

6.30. Food and Fiber Production. No effect.

6.31. Mineral Needs. The proposed project would increase total garnet reserves to meet worldwide demand for garnet products. Garnets would be used for water jet cutting and oil industries.

6.32. Consideration of private property. Lessee agreements would be established with four private property owners to accomplish the project. During the time the permittee is actively mining, the property owner would effectively yield control and use of the property. Other than this, the proposed project would not affect private property.

6.33. Other. None.

6.34. Secondary and Cumulative Impacts.

6.34.1. Secondary Impacts. Secondary impacts are the effects on an aquatic ecosystem associated with a discharge of dredged or fill material, but do not result from the actual placement of the dredged or fill material. Secondary effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

No secondary impacts are anticipated due to the proposed project.

6.34.2. Cumulative Impacts. Cumulative impacts are the changes in an aquatic ecosystem attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change by itself, the cumulative effect of numerous separate actions can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. Cumulative effects attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practicable.

The proposed project would result in incremental loss of native wetland habitat. Wetland reclamation efforts, however, would reduce these impacts such that they do not contribute to cumulative impact to the wetland resource. Over the project life, all of the impacted wetlands would be reclaimed and wetland function would be restored in the emergent and scrub-shrub wetland types. Full wetland function in the forested wetland types would take a longer period of time depending on the age of trees impacted. Over the life of the project, approximately 47.76 acres of wetlands would be removed from cattle grazing and permanently protected.

7. <u>Compliance with 404 (b)(1) Guidelines of the Clean Water Act [40 CFR 230.1].</u> The following evaluates how the project complies with these guidelines. A check in a block denoted by an asterisk indicates that the project does not comply with the guidelines.

7.1. Alternatives Test.

- Are there practicable alternatives available which do not involve a discharge of dredged or fill material into waters of the United States or that would involve discharges at other locations within these waters?

  Yes* __ No <u>X</u>

- For proposed discharges into special aquatic sites, has the applicant clearly demonstrated that there are no practicable alternative sites available?

  Yes <u>X</u> No* __

- Is the proposed project the least damaging practicable alternative available?

  Yes <u>X</u> No* __

7.2. Special Restrictions.

- Will this discharge violate state water quality standards?

  Yes*__ No X

- Will this discharge violate toxic effluent standards (under Section 307 of the Act)?

  Yes* __ No X

- Will this discharge jeopardize endangered or threatened species or their critical habitat?

  Yes* __ No X

- Will this discharge violate requirements imposed by the Department of Commerce to protect marine sanctuaries?

  Yes *__ No X

7.3. Significant Degradation. Would this discharge contribute to significant degradation of waters of the United States through adverse impacts to:

- Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites?

  Yes* __ No X

- life stages of aquatic life and other wildlife?

  Yes* __ No X

- diversity, productivity and stability of the aquatic ecosystem, such as loss of fish or wildlife habitat or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

  Yes* __ No X

- recreational aesthetic and economic values:

  Yes* __ No X

7.4. Evaluation of the information in Section 6 above indicates that the proposed discharge material meets testing exclusion criteria for the following reasons:

( ) based on the above information, the material is not a carrier of contaminants.

( ) the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

(X) acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

7.5. Minimization of Impacts. Will the applicant take all appropriate and practicable steps to minimize potential adverse impacts of the discharge on the aquatic ecosystem?

Yes X No* __

8. Mitigation. To mitigate for project impacts, the applicant proposes to reclaim 327.5 acres of land, including 133 acres of wetland, as described in their detailed mitigation plan entitled "Temporary Wetland Impacts and Reclamation and Mitigation Concepts for St. Maries River Permit Areas", Volume II of the FEIS, Appendix D, prepared by Selkirk Environmental, revised March 2002. This mitigation plan would be required as a special condition of any permit issued for this project.

Temporal wetland losses would be minimized by restoring wetlands as quickly as possible. Mined panels would be graded and seeded the first summer season after mining. The second summer season, the panels would be planted with woody species. Temporal wetland losses would be mitigated by creating an additional 29.4 acres of wetland, by enhancing the St. Maries River top-of-bank, and by planting 16.9 acres of forested wildlife corridors. The mitigated wetlands would be protected using several methods. Short-term fencing would be maintained on all reclaimed and mitigated lands. Long-term fencing would be maintained on reclaimed and mitigated wetlands on property owned by the applicant. In addition, the applicant would permanently protect 81.7 acres of land they own (approximately 59.5 acres wetland) with a conservation easement held by a third party.

9. Special Conditions. The following conditions would be made part of any permit issued for the proposed project. Each permit condition was reviewed for enforceability.

1. Mitigation shall be implemented concurrent with project construction, subject to the following mitigation plan documents as supplemented/modified by these special conditions. The mitigation plan documents consist of the final mitigation plan entitled "Temporary Wetland Impacts and Reclamation and Mitigation Concepts for St. Maries River Permit Areas", Volume II of the FEIS, Appendix D, prepared by Selkirk Environmental, revised March 2002; and the July 2004 addendum to this plan entitled "Addendum to: Temporary Wetland Impacts and Reclamation and Mitigation Concepts for St. Maries River Permit Areas, Volume I of the FEIS, Appendix F. NOTE: These documents state long-term fencing will permanently protect 55 acres, however the 55 acres is not correct. The correct acreage required to be permanently protected is 81.7 acres, as required by Special Condition 2, below. Mitigation wetlands shall be constructed as shown on sheets 3 and 4 of the February 11, 2005 permit drawings, entitled "Emerald Creek Garnet Mitigation Wetlands". The original of this drawing is 1 inch=100 feet in scale.

2. A Corps-approved conservation easement (Idaho Code 55-2101 *et. seq.*) to provide permanent protection to 81.7 acres of ECG-owned lands, including approximately 59.5 acres of wetlands, shall be signed by a third party holder before August 1, 2005. The area to be protected shall comprise the following: 1) 55 acres (Mining Area F shown on Figure 2-1, Page 2-5 in the FEIS and on Sheet 3 of the permit drawings) and; 2) 26.7 acres (Portion of Mining Area C shown on Sheet 4 of the permit drawings). The easement shall include construction and maintenance of a livestock exclusion fence around the land to be protected to exclude livestock grazing. The fence shall be located on the property lines and along the river the fence shall be located at the top of the bank or

10 feet back from top of the bank, whichever is feasible. The conservation easement shall be recorded with the Benewah and Shoshone County clerks. Until a conservation easement is approved, signed, and recorded, permittee shall only mine the following two areas consisting of three mining panels: 1) Mining Area B (Figure 2-1 of the FEIS, Sheet 5 of the permit drawings); and 2) The area outlined in red in Mining Area C shown on (Sheet 6 of the permit drawings). All mining activities associated with this permit shall cease on August 1, 2005 if the conservation easement is not approved, signed and recorded.

3. Permittee shall prepare a contingency plan that describes conditions under which the mining operation would shut down, notification and reporting requirements, startup conditions, and obtain Corps approval of the plan prior to discharging any fill material authorized by this permit. The plan would need to address how repairs to the berms, and if necessary the riverbank, would proceed before startup, in the event of a berm failure. This is to address procedures during an unforeseen event and reduce project impacts due to increased sedimentation and turbidity.

4. The wetland mitigation work shall be designed and constructed by a person or company with documented success in the type of wetland creation required in the mitigation plan.

5. Permittee shall obtain the services of a professional archaeologist to (1) monitor the initial vegetation and topsoil removal at the past and present confluences of the St. Maries River and its major tributaries; (2) provide in-field training to the mining crews in the identification of cultural material and archaeological features; (3) be available to respond to any discoveries of cultural material found during mining operations.

6. Permittee shall salvage live wetland plants (spirea, rose, hawthorne, aspen, birch, alder and cottonwood) located in the project area, prior to project construction. These wetland plants shall be immediately transplanted into the mitigation wetlands, to offset the loss of wetland functions. Permittee shall take appropriate actions to keep plants alive during hot/dry conditions such as by sprinkling wetland soils and plants.

7. Permittee shall salvage wetland hydric soils located in the project area prior to project construction. These wetland soils shall be used to line the mitigation wetlands, to provide a soil medium for wetland vegetation. Stockpiled soils shall be kept wet if stored during the hot/dry summer months.

8. This permit does not authorize any discharges of fill material into the St. Maries River, Adams Creek, Hatton Creek, Pierce Creek, or Olsen Creek, or within 22.5 feet of these waters for the entire length of the project. This permit does not authorize the removal of vegetation within areas not approved for mining. Permittee shall clearly mark the boundary of areas not approved

for mining using orange flagging or siltation fence, to ensure these areas are preserved. Mining shall not be conducted within 30 feet of the river, except for the construction of a silt berm.

9. This permit does not authorize discharges of fill material to provide access to Areas #1 and #3 on Figure 2-1 of the FEIS. A permit modification would be required for such discharges.

10. Permittee shall comply with the November 16, 1992 Best Management Practices (BMPs)

manual published by Idaho Department of Lands; and the November 2003 Storm Water Pollution Prevention Plan (SWPPP). If a storm forecast indicates flooding or the project does not meet the BMPs, the permittee shall implement the Pre-flood Shutdown Criteria and Procedures listed in the "Overview of Proposed Mining and Reclamation Methods", FEIS, Volume II, Appendix A, Section 2.3.3, pages A 18-21. Permittee shall suspend all mining at least 8 hours before a flood event is expected.

11. Mining activities shall not endanger the stability of State Highway 3.

12. The mitigation will be considered successful when the following mitigation success criteria have been accomplished:

a. 162.4 acres of emergent, scrub-shrub, and forested wetlands shall be created to offset the project impacts.

b. 16.9 acres of upland forested wildlife corridors shall be planted.

c. A wetland delineation, using the 1987 Corps of Engineers Wetland Delineation Manual, shall be prepared to document mitigation wetlands have been created.

d. Hydrology shall be designed to be self-sustaining.

e. Grazing shall be permanently eliminated within the conservation easement. Fences shall be installed and permanently maintained.

f. Of the 50 snags on the project site, only 7 snags shall be harvested. The 43 remaining snags shall be left to provide roosting and nesting habitat. Permittee shall place three to five snags per acre in restored wetlands to provide additional habitat.

g. Mined areas to be restored as wetland shall be regraded and seeded the first summer after mining and planted with woody species the second summer.

h. Oxbow complexes shall be reconstructed before they are mined, to minimize temporal losses of these diverse wetlands. An oxbow complex shall not be mined until topsoil is placed in its reconstructed oxbow and groundcover on the banks has been established for 1 year.

i. Mitigation sites shall incorporate special habitat features such as downed logs, snags, and forested upland pockets and corridors, to augment the natural biologic functions of the mitigation wetlands.

j. The 30-foot wide non-mining setback buffer, the entire length of the project along the St. Maries River, shall be planted with native shrubs and deciduous and coniferous trees where existing woody vegetation is lacking, after mining is completed, and the mining panel is being reclaimed and planted with woody material. Reference Guideline 4 in Volume II, Appendix D, page 28 of the Final Environmental Impact Statement, dated October 2004.

k. Permittee shall plant five cottonwood poles per acre in the 38.2 acres of restored scrub-shrub wetlands (191 cottonwoods); 18 cottonwood poles per acre in the 24.9 acres of restored forested wetlands (448 cottonwoods). These are conservation measures to provide roosting and nesting habitat for bald eagles and other wildlife, as described in the Corps Amended Biological Assessment. These measures are incorporated in the June 2000 "Plan of Operations for St. Maries Floodplain Dredge Mining Permit", revised February 2002, Edited July 2004, Appendix 10.3 pages 3 and 5.

l. Permittee shall comply with interim performance standards coordinated with EPA, Corps and ECG. The standards are described in the June 2000 Draft Plan of Operations, edited July 2004. The FEIS, Table 8-2, comment 8 response references this information being in Appendix A. Instead, they are located in Volume I, Appendix F.

m. ECG shall fence all restored areas for a minimum of 5 years, and protect all planted cottonwoods until they are large enough to withstand grazing.

13. Permittee shall submit an annual mining/reclamation plan to the Corps and the Idaho Department of Lands for review. Corps shall be invited to annual on-site review of mine operations. After review of the operation, the Corps may notify the permittee of any proposed suspension or modification of the permit for a specified mining area should any portion of the plan not meet the terms and conditions of the permit.

14. Permittee shall submit an annual report documenting the acreage and location of fills discharged into wetlands the previous year. If this information is clearly documented in the Annual Plan of Operations required by Idaho Department of Lands, no additional report of wetland fills is required.

15. Permittee shall submit an annual wetland mitigation monitoring report to the District Engineer by October 1 of each year, following initial construction of each mitigation site, to monitor mitigation success. Reports shall be submitted for a minimum of 5 years for emergent wetland mitigation and 10 years for forested wetland mitigation. The report shall describe completed mitigation measures, vegetation planted and shall address each of the mitigation success criteria. The report shall include photographs from fixed reference points in the mitigation area to compare mitigation success from year to year. Photographs shall be taken from the same location and same orientation each year. Monitoring reports shall be submitted each year for 5 or 10 years, depending on the type of wetland created, and until the mitigation has been successful for 2 consecutive years. The report shall identify any failure of the mitigation success criteria and shall describe measures needed to bring the site into compliance with the mitigation plan.

10. Determinations.

10.1. 404(b)(1) Guidelines (40 CFR 230.12) Determination.

( ) The discharge complies with the guidelines.

(X) The discharge complies with the guidelines, with the inclusion of the

appropriate and practicable conditions listed above (in Section 9) to minimize pollution or adverse effects to the affected ecosystem.

( ) The discharge fails to comply with the requirements of these guidelines because:

( ) There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.

( ) The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).

( ) The discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem, namely...

( ) There is not sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the guidelines.

10.2. Public Hearing Determination (33CFR Part 327). Public hearings are held if the Corps determines additional information from such a hearing is needed to make a final permit decision. Generally, public hearings are held if comments to the public notice raise substantial issues which cannot be resolved informally. Public hearings are conducted on an as needed basis at the discretion of the District Engineer. A public hearing was held for this project on December 10, 2003 in Coeur d'Alene, Idaho.

10.3. Clean Air Act Determination. The proposed project has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. I have determined the activities proposed under this permit will not exceed de minimis levels of direct emissions of a criteria pollutant or its precursors and are exempt by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this project.

10.4. Public Interest Determination. I find that issuance of a Department of the Army permit (with special conditions), as prescribed by regulations published in 33 CFR Parts 320 to 330, and 40 CFR Part 230:

__X___ is not contrary to the public interest.

_____ is contrary to the public interest.

__23 Feb 05_____
Date

___/signed/_____
Signature of Reviewer/Approver
Randy L. Glaeser
Lieutenant Colonel, Corps of Engineers
District Engineer

Attachments:

Public Notice and drawings
Water Quality Certification
Jurisdictional Determination